REMARKS

Claims 1-28 were pending in the application. The Examiner conducted a telephonic restriction request of the claims to one of the following groups:

I. Claims 1-11 and 16-28, drawn to a dispersion compensation module.

II. Claims 12-14 drawn to a dispersion tolerant receiver.

III. Claim 15 drawn to a wavelength tracking apparatus.

Applicant orally elected Group I without traverse. Claims 1-11 and 16-28 are now pending, of which claims 1, 11, and 16 are independent. Claims 12-15 are withdrawn. Claims 1, 5, 11, 16-18, 21 and 28 are amended. Claim 20 is cancelled. Claim 29 is added. No new matter is added. Reconsideration of the action mailed January 10, 2005, is respectfully requested in view of the foregoing amendments and the following remarks.

The Examiner rejected claims 11 and 20 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner rejected claims 1-4, 6-11, 16-19, and 24-27 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application No. 2004/0190906 to Jain (hereinafter "Jain"). The Examiner rejected claims 1-4, 7-9, 11, 16-19, and 23-28 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,804,057 to Vakoc (hereinafter "Vakoc"). Applicant traverses the rejections.

The Examiner objected to claims 5, 21, and 22 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant appreciates the Examiner's recognition of allowable subject matter in claims 5, 21, and 22.

The Examiner indicated the declaration of inventor, Jinghui Li, was defective as failing to identify the inventor's citizenship. A corrected declaration of the inventor in compliance with 37 CFR 1.67(a) is enclosed.

Section 112 Rejections

Claims 11 and 20 stands rejected as being indefinite. The Examiner states that the phrase, "each polarizer quarter wave plate etalon assembly" lacks antecedent basis. Applicant has amended claim 11 to read "each etalon assembly" corresponding to the phrasing used in earlier portions of claim 11. Applicant respectfully submits that the § 112 rejection of claim 11 has been overcome. Claim 20 has been cancelled, therefore, Applicant respectfully submits that the § 112 rejection of claim 20 is now moot.

Section 102 Rejections

Claim 1 stands rejected as anticipated by Jain. Claim 1, as amended, is directed to a dispersion compensation module that includes a single polarization collimator coupled to a polarizer having a first port, a second port, and a third port, the polarizer operable to receive a light beam at the first port, having a single polarization, from the single polarization collimator such that the entire light beam is directed from the first port to the second port.

The Examiner states that Jain discloses Applicant's dispersion compensation module at FIG. 5 and paragraphs 85, 86, and 89. Applicant respectfully disagrees. Jain discloses a dispersion compensator for compensating both chromatic and polarization mode dispersion. *See* Abstract; paragraph 15. FIG. 5 shows one dispersion compensator structure that includes a pair of polarization beam splitters (corresponding to Applicant's polarizer) and four etalon resonators. Input light is incident upon a polarization beam splitter 143A, which passes a first portion of the light having a first polarization towards etalon resonator 145B, and reflects a second portion of the light having a second orthogonal polarization towards etalon resonator 145A. *See* FIG. 5; paragraphs 76 and 77. A polarization controller 142 ensures that the orthogonal polarizations are aligned with the axes of the polarization beam splitter. *See* paragraph 76.

The first portion of the light beam, having a first polarization, passes through a quarter waveplate 144B to the etalon resonator 145B and is reflected from the etalon resonator back through the quarter waveplate such that the polarization light has been rotated by 90 degrees. *See* paragraph 76. The first portion is then reflected by the polarization beam splitter 143A to polarization beam splitter 143B. *See* paragraph 76. The first portion of the light beam is then

reflected from the polarization beam splitter 143B through quarter waveplate 144C to etalon resonator 145C. *See* paragraph 76. Upon reflection from etalon resonator 145C, the first portion passes back through the quarter waveplate 144C such that the first portion is rotated by a total of 90 degrees such that the first portion again has the first polarization. *See* paragraph 76. The first portion, having a first polarization, then passes through the polarization beam splitter 143B to an output 146. *See* paragraph 76.

The second portion of the light beam, having the second polarization, passes through a quarter waveplate 144A to the etalon resonator 145A and is reflected back through the quarter waveplate 144A, polarization beam splitter 143A, polarization beam splitter 143B, and quarter waveplate 144D to an etalon resonator 145D. *See* paragraph 77. Upon reflection from etalon resonator 145D, the second portion passes back through quarter wave plate 144D such that the polarization of the second portion is rotated to the second polarization. *See* paragraph 77. The second portion is then reflected by the polarization beam splitter 143B to the output 146. *See* paragraph 77

The input light beam is separated into two components which traverse different paths through the dispersion compensator. The group delay provided by etalon resonators 145A and 145B are identical and the group delay provided by etalon resonators 145C and 145D are identical. *See* paragraph 78. However, the response of etalon resonators 145A and 145B is inverse to the response given by etalon resonators 145C and 145D. *See* paragraph 78. Consequently, separating the light into different polarizations and tuning the group delay of each polarization separately provides compensation for both chromatic and polarization mode dispersion either independently or simultaneously. *See* paragraph 83.

In contrast, the claimed dispersion compensation module requires that the light signal received from the first port of the polarizer from the single polarization collimator have a single polarization. Consequently, all of the light received at the first port is then incident upon the same reflection etalon. Jain does not disclose or suggest a single polarization collimator. Additionally, Jain does not disclose or suggest a dispersion compensator in which a polarizer receives input light of a single polarization from a single polarization collimator. Instead, Jain

teaches away from the use of singularly polarized light signals because Jain requires light signals to be separated by polarization in order to independently compensate for both chromatic and polarization mode dispersion.

Claim 1 also stands rejected as anticipated by Vakoc. The Examiner states that Vakoc discloses Applicant's claimed dispersion compensator at FIGS. 9-10 and col. 9, line 65 to col. 11, line 15. Applicant respectfully disagrees. FIGS. 9-10 illustrate two implementations of a dispersion compensator. The dispersion compensator includes a number of cascaded etalon assemblies coupled together by multiple polarization beam splitters (a polarization beam splitter again corresponding to Applicant's polarizer). *See* FIGS. 9-10; col. 10, lines 1-8 and 55-67.

Light is input through an input output circulator 938 to a first polarization beam splitter 950. *See* FIG. 9; col. 10, lines 9-12. The input light has a first and second polarization such that the first polarization beam splitter 950 separates the input light into two orthogonal polarized light beams. *See* col. 10, lines 10-14. A first portion of the light beam having a first polarization is reflected to etalon assembly 910. *See* col. 10, lines 14-16. A second portion of the light beam having a second polarization passes through all of the polarization beam splitters to a polarization rotator and reflector. *See* col. 10, lines 33-37. The first and second portion are rejoined at the collimating lens 902 and output through the input output circulator 938. *See* col. 10, lines 50-54.

In contrast, the claimed dispersion compensator requires a single polarization collimator that provides a light beam to the polarizer having a single polarization. As a result, all of the light input at the first port of the polarizer is output at the second port of the polarizer to the reflection etalon. Vakoc does not disclose or suggest a dispersion compensator that receives light input from a single polarization collimator having a single polarization. Instead, Vakoc receives light having multiple polarizations which are separated into two light beams of orthogonal polarizations. Applicant respectfully submits that claim 1, as well as claims 2-10, which depend from claim 1, are in condition for allowance.

Claim 11 stands rejected as anticipated by Jain and as anticipated by Vakoc. Claim 11 is directed to a dispersion compensation module that includes a single polarization collimator

coupled to the first port of a first polarizer of the plurality of etalon assemblies and operable to provide a light signal to the first port of the polarizer having a single polarization. For at least the same reasons as set forth above with respect to claim 1, claim 11 is in condition for allowance.

Claim 16 stands rejected as anticipated by Jain and as anticipated by Vakoc. Claim 16 is directed to a dispersion compensation module that includes a single polarization collimator coupled to a first port of a first polarizer having a first port, a second port, and a third port, the single polarization collimator operable to provide an optical signal to the first port, having a single polarization, such that the optical signal is directed to the second port of the polarizer. For at least the same reasons as set forth above with respect to claim 1, claim 16 as well as claims 17-28, which depend from claim 16, are in condition for allowance.

New Claim

Claim 29 has been added. Claim 29 is directed to a method for dispersion compensation that includes receiving an input optical signal having a single first polarization at a first port of a polarizer. As discussed above with respect to claim 1, neither Jain nor Vakoc disclose or suggest receiving an optical signal having a single first polarization at a first port of a polarizer. Applicant respectfully submits that claim 29 is allowable.

Attorney's Docket No.: 13854-067001

Applicant respectfully requests that all pending claims be allowed. Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 22 March 2005

Brian J. Gustafson
Reg. No. 52,978

Fish & Richardson P.C.
500 Arguello Street, Suite 500
Redwood City, California 94063
Telephone: (650) 839-5070
Facsimile: (650) 839-5071

50260853.doc